

This report considers seven kinds of adverse results from drug education with illustrations. The authors emphasize the need for prospective studies of the effects of education on drug use and abuse, including adverse as well as desired effects.

# Untoward Effects of Drug Education

## Introduction

Drug education is currently the most popular technique in the effort to reduce drug abuse among adolescents. Evaluation of the effect of such educational programs is lacking; there has been no demonstration of their efficacy. A careful study of education regarding smoking among British youths has demonstrated that an extensive and well-designed program had little effect on their cigarette consumption.<sup>1</sup>

The study of any therapeutic or preventive technique must analyze untoward side-effects. This paper describes such untoward side-effects observed by the authors. It is hoped that this report will stimulate the study of this aspect of drug education programs, as well as an analysis of their efficacy.

## Materials and Methods

During 1970, 1,520 calls were received by the St. Louis Drug Crisis Intervention Unit. These calls have been systematically analyzed.<sup>2</sup> They include many references to drug education programs. During the course of their work at the Unit, the authors have talked at length with several adolescents and their parents regarding the effects of drug education programs on their drug-taking behavior and attitudes. The anecdotal accounts given below are from these sources:

## Untoward Effects

### *Fear of Addiction*

Many programs emphasize the addictive potential of the drugs mentioned or suggest that taking one drug will "lead" to the taking of other drugs. While this may dissuade some from taking drugs, others having already tried the drugs, may become convinced of the inevitability of these effects.

A 15-year-old girl called the Drug Crisis Intervention Unit asking where she could find heroin for sale. On further questioning she revealed that during the previous evening her boyfriend had injected her with heroin intravenously. She experienced no effects other than nausea and vomiting, and denied any wish to continue using the drug. Her previous drug experience consisted of smoking marijuana on three occasions without subjective effect. She explained that she had learned in school a week previously that injection of heroin on one occasion inevitably led to addiction. She consequently thought that she was addicted and would require the drug. When it was explained that she was indeed not addicted she was much relieved. She planned to break off with her boyfriend since she felt herself to be in a dangerous situation with him.

Robert M. Levy, M.D. and Alan R. Brown

### *Bad Trips*

It has been the impression of many workers on LSD that the set of the subject, that is, his expectations in taking the drug, significantly influence the effects he experiences.<sup>4</sup> This has not been a consistent finding in experimental studies.<sup>5</sup> Several of the callers to the Drug Crisis Intervention Unit felt that their bad trips were at least in some part precipitated by drug education programs.

A 16-year-old high school student called the Drug Crisis Intervention Unit because he feared that he was becoming insane. He had taken a tablet which he described as LSD three hours previously and was experiencing colorful visual hallucinations, patterns on walls, and floating sensations. He had taken LSD on four previous occasions and had similar effects which he enjoyed. Three weeks prior to his current experience he saw a film in high school on LSD which suggested, at considerable length, that precipitation of psychosis was a frequent effect of the drug. He was repeatedly reassured that his present experiences were drug-induced and that prolonged psychosis seemed only to occur in individuals who were previously psychiatrically ill and only rarely then. The patient seemed markedly relieved and returned to the enjoyment of his experience.

Another caller feared he was poisoned with strychnine. He had taken a tablet described as LSD one-and-a-half hours prior to calling. He experienced mild nausea at the time of the call as well as facial parasthesias. Three days previously, as part of a drug education program, the subject had been told of the adulteration of street drugs and much emphasis had been placed on their adulteration with strychnine. Abdominal cramps and muscle spasms had been mentioned as prominent symptoms of strychnine poisoning. The caller was repeatedly reassured that he had taken "good acid" and it was suggested that he drink some orange juice to calm his abdominal cramps. After 15 minutes of talking he seemed much relieved and seemed to be enjoying his drug experience.

### *Fearful Parents*

Drug education seems to make many parents extremely fearful of drugs and drug effects. In the authors' experience, many parents lump all "drugs" together. Many parents also regard any interest in drugs, or any symptoms suggestive of drug use in their children as extremely danger-

ous. Unpleasant family confrontations can be produced in this way:

The 37-year-old mother of a 15-year-old boy called the Drug Crisis Intervention Unit because she was afraid that her son was using marijuana. She had noted that he frequently had red eyes, was extremely tired when he came home from school and went to his room to lie down and listen to music. On one occasion she had searched the boys' room, finding nothing, but precipitating an internal conflict in the family. At the mother's insistence, her son spoke to one of the authors. The boy explained that he swam daily in a chlorinated pool as a member of his high school swimming team. This explained his "symptoms." The mother remained adamant stating that she had learned that injected conjunctivae, fatigue and a fascination with music were symptoms of marijuana abuse. She subsequently took the boy to a private psychiatrist for treatment.

A mother called the police when she found a marijuana cigarette in her son's possession. From her reading in a popular woman's periodical, she believed that unless strenuous action was taken the boy would inevitably "go on to the harder stuff." This woman impressed the authors as a concerned and intelligent person who was genuinely confused by the information given to her regarding drug effects.

### *Proselytizing*

In the early 1960s, much of the information regarding drugs came either from advocates of LSD use to promote esthetic and religious experience, or from sensational information regarding "the hippie" subculture.<sup>3</sup> Many drug educators feel that unless they are honest regarding drug effects, their youthful audiences will disregard their warning. Thus the authors at drug education programs have referred to marijuana as a relatively benign drug and mention its many pleasant effects. Only minimal comment has been made regarding the lack of full information on its long-term effects, the very rare untoward acute effects and the legal problems. This was done in the assumption that their audiences were well-aware of these effects and would use these remarks on marijuana as a measure of their authenticity.

The authors have been approached by members of their audiences after talks indicating that they were anxious to try the drug. Although a rationally reached decision to use illicit drugs is a theoretical effect of education, many drug educators find this an undesired and unintended effect.

### *Skepticism Regarding Information from Medical and Other Professional Sources*

It is commonly held that adolescents, on discovering that some portion of information given by a drug educator is either incorrect or just inconsistent with their experiences become profoundly skeptical of all information from other "establishment" sources. Commonly the Drug Crisis Intervention Unit is called by adolescents receiving information from medical and school sources with questions regarding its correctness. The Unit enjoys a reputation of not being "down on" drugs among the adolescent community in St. Louis County.

Typical of such calls was one from a 16-year-old girl, regarding information she had received in school, that "speed" might cause paranoid reactions. She doubted this

information because, in the same class, she had previously been told that marijuana also caused paranoid reactions. While she was aware of very mild paranoid feelings when using marijuana she was also aware that she and her friends always maintained insight in such situations and that these effects were mild enough as to constitute a slight thrill for them.

Another caller said that he would never believe "straight" people about drugs since the discussion he had heard in high school regarding the injection of marijuana.

### *Fear of Long-Term Effects*

The sensational literature regarding possible chromosomal breaks and teratogenic effects of LSD may have dissuaded some individuals from taking these drugs. Other individuals, however, having already taken these drugs are extremely frightened by such warnings.

A 23-year-old woman called the Drug Crisis Intervention Unit on two occasions because her husband had taken LSD once, one year ago. Having read an article in a popular national magazine regarding teratogenic effects of LSD, she was now planning to have no children, despite a strong wish for a family. She was not reassured by the information given her by the Unit and was referred to the genetic counseling service of a university medical center.

### *False Flashbacks*

During 1970, The Drug Crisis Intervention Unit has received 62 calls from individuals who felt they were having flashbacks. Twelve of these calls corresponded to the classical descriptions in the literature of this phenomenon. The remaining 50 involved psychiatric symptomatology, from anxiety reactions to paranoid delusions and hallucinations. One of the effects of education with regard to the flashback phenomenon seems to be that many individuals attribute psychiatric symptomatology to previous drug experience. On several occasions this resulted in, or, at least, provided an excuse for avoidance of psychiatric treatment for these symptoms.

### *Summary*

While education has been advocated as a means of reducing drug abuse there is little hard data to support this effect. This report considers seven types of adverse effects from drug education and illustrates them anecdotally: fear of addiction, bad trips, fearful parents, inadvertent proselytizing, skepticism regarding valid information, fear of long-term effects, and false flashbacks.

There is, at this time, no way to evaluate the significance of the contribution made by drug education to the cases reported. Prospective studies, therefore, of the effects of education on drug use and abuse are necessary. Such studies clearly should include the evaluation of untoward effects as well as of desired effects.

### *References*

1. Bynner, J. M. *The Young Smoker*, London, 1969.
2. Levy, R. M. and Brown, A. A Drug Crisis Intervention Unit (Abstract) Clin. Res. (in press) 1971.

3. Freedman, D. X. The Use and Abuse of LSD. Arch. Gen. Psychiat., 18:300-347, 1968.
4. Ungerleider, J. T. and Fisher, D. D. The Problem of LSD-25 and Emotional Disorder. Calif. Med., 106:49-55, 1967.
5. Blum, R. (Ed.). Utopiates: The Use and Users of LSD-25. New York, 1964.

### ACKNOWLEDGMENTS

We would like to thank Dr. James A. Halikas of the Department

of Psychiatry, and Dr. G. T. Perkoff of the Department of Medicine and Preventive Medicine, Washington University School of Medicine, St. Louis, Missouri, for their many helpful suggestions.

---

Dr. Levy is affiliated with the Department of Psychiatry, University of Chicago, 950 East 59th St., Chicago, Illinois. Mr. Brown is with the Drug Crisis Intervention Unit, 2023 Big Bend Boulevard, Brentwood, Missouri. This paper was submitted for publication in May, 1971.

### Missed the San Francisco APHA Annual Meeting?

Professional quality tape recordings of selected sessions at APHA's 101st Annual Meeting in San Francisco, November 4-8, will be available this year for the first time. An order form, listing approximately 65 sessions that were recorded on site, will appear in the December issue of *The Nation's Health* and the January issue of the *American Journal of Public Health*.

All of the general and special sessions, as well as selected scientific sessions, were taped from the speaker's stand by On-The-Spot Duplicators, Inc. Each of the one and one-half hour cassettes is priced at \$4.95; quantities from six to 12 cassettes, \$4.65 each; 12 cassettes and over, \$4.35 each. If six or more cassettes are purchased, a bonus album to hold the tapes is included at no additional charge.